

HVB16TPTX
HVB16TPTX-KT
UTP Video Transmitter
User Manual

ISSUE	DATE	REVISIONS
HVBMU001133		
A	May 2005	Initial Release (PCN 1918)
900.0571		
1	September 2005	Add HVB16TPTX-KT and HVB16TPTX-KTX (EC03485)
1.01	November 2005	Revise contents of HVB16TPTX and remove HVB16TPTX-KTX

FCC COMPLIANCE STATEMENT

INFORMATION TO THE USER: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CAUTION: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

CANADIAN COMPLIANCE STATEMENT

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la Classe A est conforme à la norme NMB-003 du Canada.



USERS OF THE PRODUCT ARE RESPONSIBLE FOR CHECKING AND COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL LAWS AND STATUTES CONCERNING THE MONITORING AND RECORDING OF VIDEO AND AUDIO SIGNALS. HONEYWELL VIDEO SYSTEMS SHALL NOT BE HELD RESPONSIBLE FOR THE USE OF THIS PRODUCT IN VIOLATION OF CURRENT LAWS AND STATUTES.



Declaration of Conformity

ISSUED BY Honeywell International Inc.
165 Eileen Way
P.O. Box 9035
Syosset NY 11791
United States of America

MANUFACTURER: Honeywell International Inc.

DATE OF ISSUE: 6 September 2005

TYPE OF EQUIPMENT: CCTV –Twisted pair Transmitter

MODEL NUMBER(S): HVB16TPTX

STANDARDS TO WHICH CONFORMITY IS DECLARED:

EN 61000-6-3:2001 *Emission standard for industrial environments*
EN 50130-4:1995 +A1:1998 +A2:2003 *Electromagnetic compatibility- alarm/security systems*
EN 60950:2000 *Safety requirements for Information Technology Equipment*


in accordance with the provisions of Council Directive(s):

89/336/EEC Electromagnetic compatibility directive
73/23/EEC Low voltage directive

Honeywell International Inc. hereby declares that the models specified above conform to the directive and standards as specified.


Place of issue: Syosset NY, U.S.A.

by


Bruce Bauer, Director of Quality



Serial number: DC0033 09/2005

IMPORTANT SAFEGUARDS

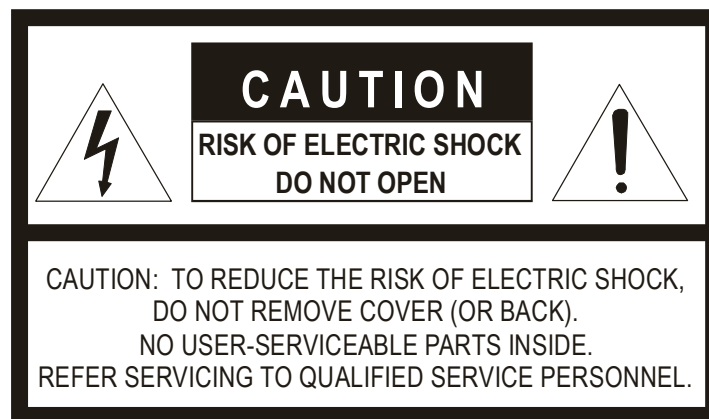
1. **READ INSTRUCTIONS** – All safety and operating instructions should be read before the unit is operated.
2. **RETAIN INSTRUCTIONS** – The safety and operating instructions should be retained for future reference.
3. **HEED WARNINGS** – All warnings on the unit and in the operating instructions should be adhered to.
4. **FOLLOW INSTRUCTIONS** – All operating and use instructions should be followed.
5. **CLEANING** – Unplug the unit from the outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
6. **ATTACHMENTS** – Do not use attachments not recommended by the product manufacturer as they may result in the risk of fire, electric shock, or injury to persons.
7. **WATER AND MOISTURE** – Do not use this unit near water or in an unprotected outdoor installation, or any area which is classified as a wet location.
8. **ACCESSORIES** - Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult and serious damage to the equipment. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer. Wall or shelf mounting should follow the manufacturer's instructions and should use a mounting kit approved by the manufacturer.
9. A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.
10. **VENTILATION** - Slots and openings in the cabinet and the back or bottom are provided for ventilation and to ensure reliable operation of the equipment and to protect it from overheating. These openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. Equipment should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation, such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
11. **POWER SOURCES** – This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supplied to your facility, consult your product dealer or local power company.
12. **GROUNDING OR POLARIZATION** – The unit must be connected to a good earth ground.
13. **OVERLOADING** – Do not overload outlets and extension cords as this can result in a risk of fire or electric shock.
14. **POWER-CORD PROTECTION** – Power supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords and plugs, convenience receptacles, and the point where they exit from the monitor.

15. **OBJECT AND LIQUID ENTRY** – Never push objects of any kind into this unit through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the unit.
16. **SERVICING** – Do not attempt to service this unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
17. **DAMAGE REQUIRING SERVICE** – Unplug the unit from the outlet and refer servicing to qualified service personnel under the following conditions:
 - a. When the power-supply cord or plug is damaged.
 - b. If liquid has been spilled, or objects have fallen into the unit.
 - c. If the unit has been exposed to rain or water.
 - d. If the unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of any controls may result in damage and will often require extensive work by a qualified technician to restore the unit to its normal operation.
 - e. If the unit has been dropped or the enclosure has been damaged.
 - f. When the unit exhibits a distinct change in performance - this indicates a need for service.
18. **REPLACEMENT PARTS** – When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.
19. **SAFETY CHECK** – Upon completion of any service or repairs to this unit, ask the service technician to perform safety checks to determine that the unit is in proper operating condition.
20. **LIGHTNING AND POWER LINE SURGES** – For added protection of this unit during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the cable system. This will prevent damage to the unit due to lightning and power-line surges.
21. **HEAT** – The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.
22. **INSTALLATION** – Do not install the unit in an extremely hot or humid location, or in a place subject to dust or mechanical vibration. The unit is not designed to be waterproof. Exposure to rain or water may damage the unit.
23. **WALL OR CEILING MOUNTING** – The product should be mounted to a wall or ceiling only as recommended by the manufacturer




EXPLANATION OF GRAPHICAL SYMBOLS

	The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.
	The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instruction in the literature accompanying the product.

CAUTION



WARNING

	WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.
	WARNING: DO NOT INSERT ANY METALLIC OBJECT THROUGH VENTILATION GRILLS .
	WARNING: THIS UNIT MUST BE OPERATED WITH A PROPERLY GROUNDED 3-PIN CONNECTION. NON-OBSERVANCE OF THIS STANDARD PRACTICE MAY RESULT IN A STATIC ELECTRICITY BUILD-UP THAT MAY RESULT IN AN ELECTRIC SHOCK WHEN EXTERNAL CONNECTIONS ARE TOUCHED.

Notes:

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SECTION 1: INTRODUCTION

1.1 PRODUCT DESCRIPTION

The HVB16TPTX and HVB16TXX are active video transmitters that provide for connection of 16 cameras using conventional coaxial cable with BNC connectors and converts the video signal for connection to unshielded twisted pair cabling. The twisted pair connections are RJ45 plugs. Each RJ45 plug provides 4 video outputs for twisted pair cabling and allows simple connection to a punch-down block.

A switch is provided on the front panel for each video input channel for selection of short cable distances (0-1500 feet) and long cable distances (1500-3000 feet).

1.2 PACKAGE CONTENTS

HVB16TPTX

1. HVB16TPTX, 16-Channel UTP Video Transmitter
2. Installation Manual, 900.0571

HVB16TPTX-KT

1. HVB16TPTX, 16-Channel UTP Video Transmitter
2. Transformer, Plug-in, 120Vac/60Hz Input, 18Vac/50VA Output, part number N8167
3. Installation Manual, 900.0571

Notes:

SECTION 2: CONNECTIONS

2.1 HVB16TPTX REAR PANEL

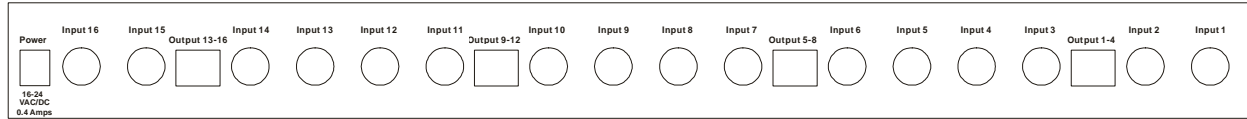


Figure 1. HVB16TPTX Rear Panel

Table 1: Rear Panel Connections	
Connector	Description
Power (16-24VAC/DC, 0.4 Amps)	Connect the power supply provided with the unit at the Power connector.
Input 16 – Input 1 (BNC connectors)	Video Input 16 – 1: Connect cameras using conventional coaxial cable with BNC Connectors (maximum cable length = 3000 feet)
Output 1-4 (RJ45 Plug)	Video Outputs 1-4: Connect using UTP (unshielded twisted pair) Standard CAT5 Straight-Through Ethernet Cable Camera 1 = Pins 4 & 5 Camera 2 = Pins 3 & 6 Camera 3 = Pins 7 & 8 Camera 4 = Pins 1 & 2
Output 5-8 (RJ45 Plug)	Video Outputs 5-8: Connect using UTP (unshielded twisted pair) Standard CAT5 Straight-Through Ethernet Cable Camera 5 = Pins 4 & 5 Camera 6 = Pins 3 & 6 Camera 7 = Pins 7 & 8 Camera 8 = Pins 1 & 2
Output 9-12 (RJ45 Plug)	Video Outputs 9-12: Connect using UTP (unshielded twisted pair) Standard CAT5 Straight-Through Ethernet Cable Camera 9 = Pins 4 & 5 Camera 10 = Pins 3 & 6 Camera 11 = Pins 7 & 8 Camera 12 = Pins 1 & 2
Output 13-16 (RJ45 Plug)	Video Outputs 9-13: Connect using UTP (unshielded twisted pair) Camera 13 = Pins 4 & 5 Camera 14 = Pins 3 & 6 Camera 15 = Pins 7 & 8 Camera 16 = Pins 1 & 2

2.2 RJ45 PIN CONNECTIONS

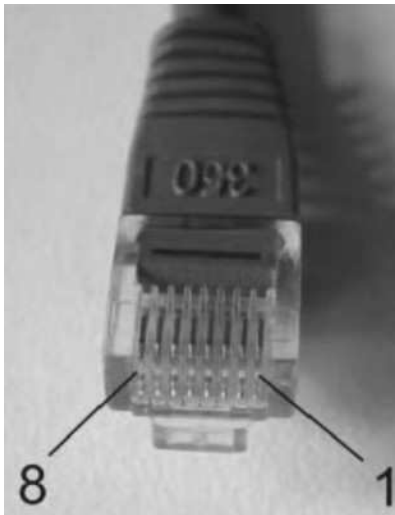


Figure 2. RJ45 Plug Connector (Shown with Tab Underneath)

Table 2. RJ45 Pin-Outs	
Pin	Function
1	Video In Channel 4 (+)
2	Video In Channel 4 (-)
3	Video In Channel 2 (+)
4	Video In Channel 1 (-)
5	Video In Channel 1 (+)
6	Video In Channel 2 (-)
7	Video In Channel 3 (+)
8	Video In Channel 3 (-)

2.3 SYSTEM BLOCK DIAGRAM

The following illustration provides a typical system block diagram.

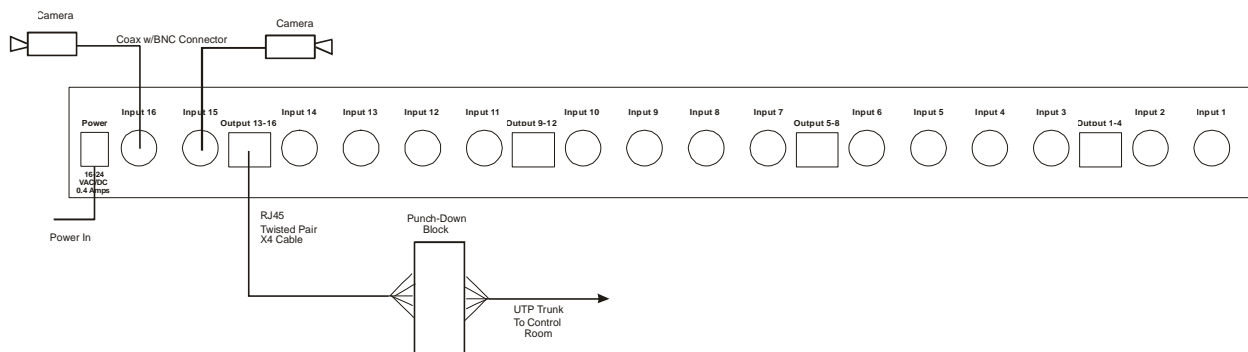


Figure 3. System Block Diagram

SECTION 3: CONTROLS AND OPERATION

3.1 HVB16TPTX FRONT PANEL

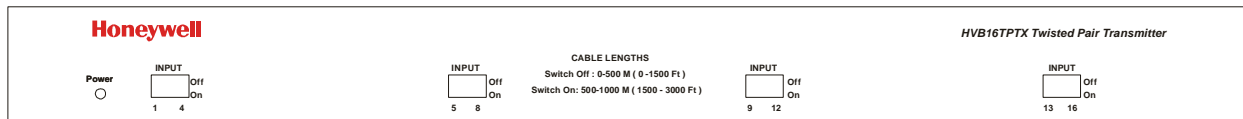


Figure 4. HVB16TPTX FRONT PANEL

Table 2: Front Panel Controls	
Control	Description
Power	LED lights when power is applied to unit.
4-Position DIP Switches	Cable Lengths Off = 0-500M (0-1500 Ft) On = 500-1000M (1500-3000 Ft)
Input 1 – 4	Switch 1 – Video Input 1 Switch 2 – Video Input 2 Switch 3 – Video Input 3 Switch 4 – Video Input 4
Input 5 - 8	Switch 1 – Video Input 5 Switch 2 – Video Input 6 Switch 3 – Video Input 7 Switch 4 – Video Input 8
Input 9-12	Switch 1 – Video Input 9 Switch 2 – Video Input 10 Switch 3 – Video Input 11 Switch 4 – Video Input 12
Input 13-16	Switch 1 – Video Input 13 Switch 2 – Video Input 14 Switch 3 – Video Input 15 Switch 4 – Video Input 16

3.2 OPERATION

After equipment connections are made and power is applied to the HVB16TPTX, operation of the unit is automatic. The video signal received at the video input BNC connector is converted for output on the appropriate RJ45 Video Output connector. For example, the video connected at Input 1 is outputted at RJ45 Output 1.

SECTION 4: SPECIFICATIONS

Cable Distances:	Coaxial: 0-3000 feet UTP (CAT4/CAT5/CAT6:
Frequency Compensation:	Switchable for cable lengths 0-1500 and 1500-3000
Input Impedance:	75 Ohms
Method:	Active electronic balanced
Bandwidth	5Hz to 5Mz –3db
Differential Gain Error	0.5%
Differential Phase Error	0.02%
Distortion	<72db @ 5MHz
Supply Voltage	16-24 VAC/DC 0.4 Amps
Power Consumption	2 Watts
Connection Style	Balanced video out via RJ45 Direct in video via BNC
Rack Height	1U (1.75")
Operating Temperature	0° to 40°C

Notes:

Notes:

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